



PROBLEM SOLVING ACTIVITY: WARMING TO EVOLUTION

OBJECTIVES: Students will:

- ✚ Trace the effects if a gradual climate change on a model ecosystem which is simplified from a real situation.
- ✚ Explain ways in which environmental factors interact to set limits on geographic ranges.

MATERIALS: **Student Sheets**, Paper/pencil, Butcher paper, Markers, Glue and tape;

PROCEDURE:

1. Read and discuss the **Background Information** sheet with the class.
2. Read the **CLIMATE CHANGE INFORMATION SHEET: PART I**.
3. With a partner, students should diagram the food web in the ecosystem described in **PART I** on a large sheet of butcher paper using the drawing provided on the illustration sheets.
4. Read **INFORMATION SHEET: Part II**.
5. Fill in the columns in the **DATA TABLE: CLIMATE CHANGE FACTORS AND ECOSYSTEM RESPONSES** using the information from the second reading selection. **NOTE: When filling out the data table, students should assume that organisms in the desert area are trying to move to the grassy area at all times and that they will invade it whenever the conditions allow it**
6. After filling out the chart, students should create a diagram a new food web on butcher paper for the same ecosystem at the end of 10,000 years.

7. Students should then prepare a written summary of the climatic change that occurred in the ecosystem under study over the 10,000 year period.
8. Students should respond to the questions in the **ANALYSIS AND CONCLUSIONS** section and be prepared to discuss and defend your answers.
9. Maximum and minimum levels would be more realistic.

